

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 10, 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jungreis et al (6,369,461).

Jungreis teaches a power conditioner that interfaces a load to a fuel cell 10 that produces a low voltage that varies with the load. A dc-dc inverter 16 operates with a low voltage input provided by a dc bus 14. When a positive step load change occurs, a low voltage battery 22 provides power equal to the step change until the fuel cell is able to provide enough power to support the entire load. The power from the battery 22 is supplied to the varying dc bus 14 through a boost converter 12.

It would have been obvious to one of ordinary skill in the art to use the teachings of Jungreis to meet the claims because differences between the teachings and the

claims are minor design variations that are not seen to involve an inventive step when the abilities of persons of ordinary skill are taken into consideration. The claimed method of defining a minimum voltage parameter from among the voltages across the terminals of individual cells is well known in multi-cell battery systems and applicable to the fuel cell elements, which combine the output of a plurality of cells to drive a load in the same basic manner as battery cells.

Allowable Subject Matter

Claims 12-14 and 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The above mentioned claims recite limitations that are not suggested by the prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen W. Jackson whose telephone number is 571-272-2051. The examiner can normally be reached on 6:30am-3:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2836

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SWJackson

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/Stephen W Jackson/
Primary Examiner, Art Unit 2836